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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|---------------------|
| 10/809,474 | 03/26/2004 | Hieu A. Lam | 248132US6YA | 8337 |
| 22850 | 7590 | 01/11/2006 | | |
| OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | | EXAMINER |
| | | | | ALANKO, ANITA KAREN |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1765 | |

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/809,474 | LAM ET AL. | |
| | Examiner | Art Unit | |
| | Anita K. Alanko | 1765 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 10/21/05 election.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 11-20 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-10,21 and 22 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

Election/Restrictions

Applicant's election with traverse of Group I, the method, in the reply filed on 10/21/05 is acknowledged. The traversal is on the ground(s) that it is not a serious burden to examine both groups. This is not found persuasive because the restriction requirement details the reasons for the restriction. For example, method limitations are given little weight in apparatus claims, and apparatus limitations are given little weight in method claims, and therefore the two groups require different examination.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim cites to select static and dynamic threshold values, which does not appear to be the invention. Alternative language "or" may be used, or proper Markush group terminology may be added ("said optical signal with at least one member selected from the group consisting of a static...").

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7, 10 and 21-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim et al (US 2003/0052083 A1).

Kim discloses a method comprising:

disposing a substrate 104 ([0040]) in a plasma processing system 102 ([0032]+);
exposing said substrate to a process in said plasma processing system (etching, [0034]);
detecting an optical signal from said process ([0037]);
determining said substrate type by comparing said optical signal with a threshold value ([0040])
“(i) remove particular substrates 104 ...if a substrate property is inadequate or does not fall
within a statistically determined range of values” – this inherently includes determining substrate
type since only those that are of the wrong type are removed, the upper and lower limits of the
range of values comprise threshold values).

As to claim 2, Kim discloses to expose the substrate to a seasoning process ([0029]).

As to claims 3-4, Kim discloses to use optical emission spectroscopy and acquire
emission spectra ([0037]).

As to claims 5-6, Kim discloses to determine an intensity ratio from said optical emission
spectrum (intensities are “divided” [0023] – line 6) and to compare it to a threshold (the range,
[0024]).

As to claim 7, as broadly cited, the substrate is determined correct (acceptable if falls
within range, [0040]-lines 18-21, which encompasses being less than the threshold) or incorrect
substrate type (unacceptable, value is outside or the range, which encompasses being greater than
the threshold value).

As to claim 10, Kim does not explicitly disclose the type of threshold, but it must be either static or dynamic.

As to claims 21-22, see the rejection of claims 1-7.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al (US 2003/0052083 A1) in view of admitted prior art.

The discussion of Kim from above is repeated here.

As to claims 8-9, Kim discloses to season the chamber using seasoning substrates and bare silicon substrates ([0005]). It is also inherent that since the substrates are different, that their emission spectra and intensity ratios are different. Kim fails to explicitly disclose

identifying either a seasoning substrate or a bare silicon substrate by comparing the intensity ratio to a threshold value. Admitted prior art teaches that bare silicon substrates can mistakenly be inserted into the seasoning process (page 2, lines 1-2). It would have been obvious to one with ordinary skill in the art to identify either a seasoning substrate or a bare silicon substrate by comparing the intensity ratio to a threshold value, as cited, because Kim teaches to use the method to identify and remove substrates that are not within a predetermined range of values, and since the spectra of seasoning or bare silicon wafers are different, it is obvious to determine that an erroneous substrate is present, such as a bare silicon wafer as taught by admitted prior art, by not having the values fall within a threshold value.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited art shows methods of controlling a process based on optical emission spectra.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anita K. Alanko whose telephone number is 571-272-1458. The examiner can normally be reached on Mon-Fri until 2:30 pm (Wed until 11:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 571-272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1765

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Anita K. Alanko

Anita K Alanko
Primary Examiner
Art Unit 1765